What is claimed is:

1. A method for interconnecting a calling party asynchronous transfer mode system having a calling party host and a called party asynchronous transfer mode system having a called party host using an intermediate switching asynchronous transfer mode network and a border node associated with each asynchronous transfer mode system comprising:

routing a call from said calling party host to said called party host over the intermediate switching asynchronous transfer mode network based on an intermediate switching ATM network addressing scheme that is recognized by said border nodes and independent of an addressing scheme of said asynchronous transfer mode systems.

2. A method in accordance with claim 1, wherein said routing step comprises:

substituting at the border node of the calling party asynchronous transfer mode system in a called party address information element an intermediate switching asynchronous transfer mode network address of the border node of the called party asynchronous transfer mode system for the asynchronous transfer mode system address of the called party host; and

routing the call over the intermediate switching asynchronous transfer mode network from the border node of the calling party asynchronous transfer mode system to the border node of the called party asynchronous transfer mode system based on the intermediate switching asynchronous transfer mode network address in the called party address information element.

3. A method for interconnecting a calling party asynchronous transfer mode system to a called party asynchronous transfer mode system by way of a calling party border node, an intermediate switching asynchronous transfer mode network having an intermediate asynchronous transfer mode network addressing scheme, and a called party border node, the calling party asynchronous transfer mode system having a calling party host connected to the calling party border node by at least one calling party non-border node, the called party asynchronous transfer mode system having a called party host connected to the called party border node by at least one called party non-border node, the calling and called party hosts

9   having an asynchronous transfer mode system addressing scheme independent of the

10   intermediate switching asynchronous transfer mode network addressing scheme, comprising:

11   generating at the calling party host a SETUP message specifying the

12   asynchronous transfer mode system address of the called party host in a called party address

13   information element;

14   routing the call to the at least one calling party non-border node based on the

15   called party address information element;

16   generating at the at least one calling party non-border node a SETUP message

17   specifying in a called party subaddress information element the asynchronous transfer mode

18   system address of the called party host from the called party address information element;

19   routing the call to the calling party border node;

20   substituting at the calling party border node in the called party address

21   information element the intermediate switching asynchronous transfer mode network address

22   of the called party border node for the asynchronous transfer mode system address of the called

23   party host;

24   transmitting the call over the intermediate switching asynchronous transfer mode

25   network to the called party border node based on the intermediate switching asynchronous

26   transfer mode network address of the called party border node in the called party address

27   information element;

28   generating at the called party border node a SETUP message specifying in the

29   called party address information element the asynchronous transfer mode system address of the

30   called party host from the called party subaddress information element;

31   routing to the at least one called party non-border node the call based on the

32   asynchronous transfer mode system address of the called party host in the called party address

33   information element;

34   generating at the at least one called party non-border node a SETUP message

35   specifying in the called party address information element the asynchronous transfer mode

36   system address of the called party host, without identifying the called party subaddress

37   information element; and

38   routing the call to the called party host based on the asynchronous transfer mode

39   system address of the called party host in the called party address information element.

1   4.   A method in accordance with claim 3, wherein the called party subaddress is

2   encrypted.

1   5.   A method in accordance with claim 3, wherein said step of generating at the calling

2   party host the SETUP message further comprises identifying the asynchronous transfer mode

3   system address of the called party host using one of provisioning, local area network

4   emulation, multi-protocol over asynchronous transfer mode, and proprietary techniques.

5   6.   A method for interconnecting a calling party asynchronous transfer mode system

6   to a called party asynchronous transfer mode system by way of a calling party border node,

7   an intermediate switching asynchronous transfer mode network having an intermediate

8   asynchronous transfer mode network addressing scheme, and a called party border node, the

9   calling party asynchronous transfer mode system having a calling party host directly connected

10   to the calling party border node, the called party asynchronous transfer mode system having

11   a called party host directly connected to the called party border node, the calling and called

12   party hosts having an asynchronous transfer mode system addressing scheme independent of

13   the intermediate switching asynchronous transfer mode network addressing scheme,

14   comprising:

15   generating at the calling party host a SETUP message specifying the

16   asynchronous transfer mode system address of the called party host in a called party address

17   information element;

18   generating at the calling party border node a SETUP message specifying in a

19   called party subaddress information element the asynchronous transfer mode system address

20   of the called party host in the called party address information element;

21   substituting at the calling party border node in the called party address

22   information element the intermediate switching asynchronous transfer mode network address

23   of the called party border node for the asynchronous transfer mode system address of the called

24   party host;

25   transmitting the call over the intermediate switching asynchronous transfer mode

26   network to the called party border node based on the intermediate switching asynchronous

27   transfer mode network address of the called party border node in the called party address

28   information element;

29   generating at the called party border node a SETUP message specifying in the

30   called party address information element the asynchronous transfer mode system address of the

31   called party host from the called party subaddress information element;

32   routing the call to the called party border node based on the asynchronous

33   transfer mode system address of the called party host in the called party address information

34   element;

35   generating at the called party border node a SETUP message specifying in the

36   called party address information element the asynchronous transfer mode system address of the

37   called party host, without identifying the called party subaddress information element; and

38   routing the call to the called party host based on the asynchronous transfer mode

39   system address of the called party host in the called party address information element.

1   7.   A method in accordance with claim 6, wherein the called party subaddress is

2   encrypted.

1   8. A method in accordance with claim 6, wherein said step of generating at the calling

2   party host the SETUP message further comprises identifying the asynchronous transfer mode

3   system address of the called party host using one of provisioning, local area network

4   emulation, multi-protocol over asynchronous transfer mode, and proprietary techniques.

1   9. A system for interconnecting asynchronous transfer mode systems comprising:

2   an intermediate switching asynchronous transfer mode network having an

3   asynchronous transfer mode addressing scheme;

4   a calling party border node connected to said intermediate switching

5   asynchronous transfer mode network;

6   a called party border node connected to said intermediate switching

7   asynchronous transfer mode network;

8   a calling party asynchronous transfer mode system connected to said calling

9   party border node; and

10   a called party asynchronous transfer mode system connected to said called party

11   border node;

12   said asynchronous transfer mode systems having an addressing scheme

13   independent from the addressing scheme of said intermediate switching asynchronous transfer

14   mode network, and said border nodes interfacing between the addressing scheme of said

15   asynchronous transfer mode systems and the intermediate switching asynchronous transfer

16   mode network addressing scheme.

1   10. A system in accordance with claim 9, wherein said border nodes are asynchronous

2   transfer mode switches.

1   11. A system in accordance with claim 9, wherein said calling party asynchronous

2   transfer mode system comprises a calling party host directly connect to said calling party

3   border node.

1   12. A system in accordance with claim 9, wherein said calling party asynchronous

2   transfer mode system comprises:

3   a calling party host; and

4   at least one calling party non-border node connected between said calling party

5   host and said calling party border node.

1   13.   A system in accordance with claim 9, wherein said called party asynchronous

2   transfer mode system comprises a called party host directly connected to said called party

3   border node.

1   14. A system in accordance with claim 9, wherein said called party asynchronous

2   transfer mode system comprises:

3   a called party host; and

4   at least one called party non-border node connected between said called party

5   host and said called party border node.

1   15. An asynchronous transfer mode switching method comprising:

2   substituting at a calling party border node an intermediate switching

3   asynchronous transfer mode network address of a called party border node for an asynchronous

4   transfer mode system address of a called party host.

1   16. An asynchronous transfer mode switching method comprising:

2   substituting at a called party border node an asynchronous transfer mode system

3   address of the called party host for an intermediate switching asynchronous transfer mode

4   network address of the called party border node.